## PRODUCTION OF BEET SUGAR

By William Saunders, Director Dominion Experimental Farms.

The rapid growth of the beet sugar Industry within the past few years in Germany, Austria, France, Russia and Belgium has awakened in all civilized countries a general interest in this subject. Numerous experiments have been tried with sugar beets for the purpose of ascertaining where they could be sucpessfully grown with a sufficiently high percentage of sugar to permit of their being manufactured with some hope of profit. This experimental testing of sugar beets has become very general of late in the United States and Canada; and sufficient evidence has been accumulated to show that in both countries there are large areas over which this useful plant can be grown to a degree of perfection as to sugar strength and purity equal to any produced in Europe. It is also indisputable that the cultivation of root crops is very beneficial to the The land is necessarily stirred to a greater depth than with other crops: weeds are subdued by the frequent cultivation necessary in root culture, and the goil, after the roots are removed, is left in much better condition for the success ful growth of subsequent crops. For these reasons the growing of root crops deserves encouragement.

In view of these facts the question naturally arises. Why has this industry not been more generally and successfully established in this country? There was paid to foreign countries for 223,841,171 pounds of sugar imported into Canada for the year ending July 1, 1890, \$5,837,895, and for 174,045,720 pounds for the year ending July 1, 1891, Why could not this article be produced by our own people, and this large sum of money spent in promoting a useful industry in our midst, whereby a portion of the arable land would be improved and employment provided for several months in the year for a number of

The best sugar industry in Europe has been developed under the favoring influences of protection and large bounties, and one of the objects of the present inquiry is to endeavor to present, free from bias or prejudice, the facts bearing on this subject from all sides, so that an intelligent judgment may be formed and such conclusions reached as may best promote the welfare of the Canadian To obtain information the writer has

recently visited the beet sugar factory at West Farnham, Quebec, and also the factories at Grand Island and Norfolk, in Nebraska, United States, and has inquired concerning the valuable tests, both chemical and agricultural, which have been carried on for some years past under the direction of Dr. H. W. Wiley. the talented chemist of the Department of Agriculture at Washington. Visits have also been paid to the experiment station at Lincoln, Neb., where the production of beet sugar has been made a special subject of study by the director and well known chemist, Prof. H. H. Nicholson; also to the stations at Ames, Ia., and Madison, Wis., where further useful information has been obtained. Additional facts have been gathered by a careful study of the available literature which has appeared on this subject during the past twenty years or more, and by correspondence and interviews with experts who have spent much time in acquiring a knowledge of

In the preparation of the report free use has been made of the material contained in the reports of the Department of Agriculture of the United States and of the special bulletins on this subject which have been prepared by Dr. H. W. Wiley and published by this depart-ment. The past eleven volumes of "The Sugar Beet," published by Lewis S. Ware of Philadelphia, have been similarly used. The author also desires to acknowledge his personal obligations to Dr. H. W. Wiley for much general information covering the whole subject; also to Prof. H. H. Nicholson of Lincoln, Neb. Further assistance has been given by the loan of a valuable collection of papers and documents on this subject made by Mr. George Johnson, satistician of the Department of Agriculture in Ottawa. For much of the information regarding the manufacture of beet sugar I am indebted to Henry T. Oxnard, esq., of Grand Island, Neb., U. S., and to Alfred Musy, esq., of Farnham, Quebec.

THE BEET SUGAR INDUSTRY IN EUROPE. The beet Beta vulgaris has long been cultivated. De Candolle, in his "Origin of Cultivated Plants," says that the red and white beets which botanists generally agree in regarding as varieties of one species were known to the ancients, but their cultivation does not probably date more than three or four centuries before the Christian era. The cultivated beet has probably originated from a slender-rooted variety, which grows wild along the coasts of the Mediterranean sea and in Persia and which has become more fleshy rooted by long cultivation. It is a plant easily improved by selection and careful culture, and the number of varieties has greatly increased in modern times, especially since the best root has been so largely cultirated for the production of sugar and as

food for cattle. In 1747 a Prussian chemist named Margranf read a paper before the Acad-emy of Sciences in Berlin on the existence of cane sugar in many home grown roots. He found most sugar in the white Silesian beet and produced sam-ples which he had made from that root. After describing the process by which he obtained this sugar he gave it as his opinion that the preduction of sugar on a large scale from the beet could be made remunerative at the high war prices at which sugar was then held The interest which this discovery at first awakened died out when peace was restored and the price of sugar went down. With the outbreak of another war the subject of making sugar from the beet was again discussed, and under the pa-tronage of Frederick the Great another Prussian chemist, named Achard, began a series of experiments in 1773 to test the practicability of this project, but the death of Frederick put a stop to this work before any satisfactory results were reached. Achard resumed his experiments in 1775 and established a factory which was maintained by the Prussian government, and in 1779 he presented to the king of Prussia several loaves of beet sugar, accompanied by a report in which he claimed to have obtained 6 per cent of raw sugar from the root and to have manufactured it at a cost of about 6 cents per poand. At the same time he stated that he believed that with further improvements in the process the cost could be materially

RISE OF THE INDUSTRY IN FRANCE. This report attracted much attention In France, where a committee of prominent scientific men was appointed to investigate the subject. In their report they stated that Achard did not obtain more than I per cent of sugar from the beets, and after this information had been made public further pursuit of the subject in France was for the time abandoned. Meanwhile two new factories were established in Germany, and the results obtained by the three factories working there induced Napoleon I. to renew the inquiry by the appointment of a new committee of experts to carry on experiments with the beets. Re-

Deveux and in 1811 by Barruel, to the effect that a yield had been obtained of about 14 per cent, and that sugar had been made at a cost of about 30 cents per pound. Napoleon offered liberal bounties to further this industry, and at one time \$200,000 was placed at the disposal of the minister of agriculture to stimulate the production of beet sugar. The overthrow of Napoleon in 1814 cut off the government bounties and threatened the destruction of the new sugar industry, but a duty of 50 per cent levied by the restored government enibled one manufacturer, M. Delisse, to continue the business, and he claimed to have obtained 5 per cent of sugar from his beets, and to have made it at cost of 7 cents per pound. From 1820 to 1825, under the protection afforded by a heavy duty, the factories multiplied, and from reports published in the latter year, we gather that 100 establishments were in operation, but they must have been very small, as the total output was only 5,000 tons of sugar. By 1836, 436 factories were actively working, producing 49,000 tons of sugar; but in 1837, when a part of the protection was with drawn by the levying of a duty of 11 cents per pound on domestic sugars, 160 of the factories were closed and the production of sugar fell that year to 22,000 Excise regulations more favorable to

the manufacturers soon brought about

a revival of the industry, and for some years it made rapid progress, France meanwhile leading all the other nations of Europe in the quantity of sugar pro-duced. By 1872 the production had been worked up to 408,609 tons, but the tax collected was still levied on the sugar produced, and the farmers who grew the beets for the factories had no special stimulus to produce beets of high quality, but it was rather to their interest to obtain heavy crops. Hence they sought weight per acre rather than a high percentage of sugar. The manufacturers also had but little inducement to improve their processes for making sugar, and under these conditions the industry fluctuated from year to year and made but slow advancement in France. But in 1884 a new law was passed which provided that the tax should be levied on the beets on the basis of a duty equal to that of 6 per cent of sugar where factories were worked by diffusion and 5 per cent where the juice was extracted by hydraulic pressure. These differences were to be tolerated until 1887, after which all factories regardless of process were to be equally taxed. The manufacturers were to have as bounty all the sugar they could make above these percentages duty free. In 1883 the average sugar production was about 6.60 per cent or 473,671 tons from 7,328,000 tons of beets; in 1884 it was 6.87, the produc tion of beets naving dropped to 4,512,000 tons and the total yield of sugar to 308,410 tons, for under the new regulations the bounty obtainable that year by the best worked factories was reduced to about three-fourths of a cent per pound. In 1885 the crop of beets fell to less than half of what it was two years before, having dropped to 3,450,000 tons, with a sugar production of only 290,000 tons, but a great stimulus had been given to improving the quality of the beets as well as the process of manufacture and the manufacturers offered prices in accordance with the quality of the peets, and the porcentage of sugar made that year was 8.40 which brought the bounty up to about 11 cents per pound. The yield of sugar has been increasing ever since. In 1888 it was said to be 9.63, in 1889 10.05, and in 1890 it fell off a little being 9.80 per cent. The industry developed rapidly under the stimulus of these increasing bounties. In the meantime, however, the government raised the standard sugar strength of

beets from 6 per cent to 7.50 per cent. The system at present in force in France, as explained to the writer by . Musy, manager of the beet sugar Farnham, Quebec, is as follows: There are two methods by which the tax on beet sugar is levied, and manufacturers in that country may elect not later than September 15 in each year under which system they propose to run their factory for the season. One regulation provides that the duty shall paid on the manufactured sugar, the manufacturer being allowed to take out

of bond, without paying duty, 15 per cent of all he makes. As the duty is about 5½ cents per pound, this is equiva-lent to a bonus of about 82½ cents on each 100 pounds. By the other method the tax is levied on the beets, which are estimated to yield 7.75 per cent of sugar, and a duty is paid on every 100 pounds of roots which enter the factory, equal to that on 71 pounds of sugar, and all the sugar which the manufacturers can make over and above the 7.75 per cent he gets duty free up to 10½ per cent. If his beets yield a higher percentage than 10½ he must pay onehalf of the duty on all he makes above that figure. Supposing the production to be 111 per cent, which many of the factories are said now to obtain, the owners have 2f pounds of free sugar from every 100 pounds of beets, equal to a bounty of a fraction over 15 cents, to which the 1 per cent at half duty adds 24 cents, making a bonus of 171 cents on 111 pounds of sugar, a fraction over 11 cents per pound on all the sugar made. When this sugar is exported a drawback

f the full amount of duty is allowed on all that has been made, including that portion which the manfacturer has had ree, and by this process the revenues of France are drawn on to furnish cheap sugar to the outside world, for in order to find a market it must compete in price with cane sugar, which costs less to produce. It is stated that refined sugar is sold in France to foreign countries at 3-63 cents per pound, while for home consumption it brings 9-40 cents. In an official report of the French secretary of state for 1886, some figures are given of the yearly profits realized by beet sugar factories in France. One factory realized \$96,000, and many others had from \$52,000 to \$54,000. Other cases are cited of \$74,000 and \$70,000, and one factory is mentioned where the profits in a single cam paign were nearly 50 per cent on the capital invested. On the 10th of November of that year, in a speech by the director general of the budget commission in the French chamber of mission in the French chamber of deputies, speaking of the profits of sugar factories the following was stated: "Duty is paid according to a conventional yield, which is this year 6 per cent, but the true yield appears to be nearly 12 per cent. Meanwhile 10 per cent may be taken without exaggeration. The sugar makers obtain a benefit tion. The sugar makers obtain a benefit on the yield of 30 to 36 per cent. The

actual situation is a loss to the treasury of 72,000,000 francs." During the season of 1889-90 it was estimated that in France about 500,000 acres of land was sevoted to the cultivation of sugar beets, and it is said that the factories during the period of active work gave employ ment to 39,000 men, at an average of 73 cents per day, 4,000 women at 38 cents and 3,000 children at 34 cents.

PROGRESS IN GERMANY. In Germany, owing to the disastrous effects of devastating wars, but little progress was made in the manufacture of beet sugar until about 1836, when there was 122 factories in operation, which increased to 152 in 1841. During that year a portion of the advantage which the factories had enjoyed was taken from them by the imposition of a light internal revenue tax on the beets used, and 7 of the factories closed. The

following year the tax was increased, and 47 more ceased operations, reduc-ing the number working to 98. The industry languished, owing to poorly constructed establishments and severe com petition with cane sugar until 1845, when with the number of factories still at 98 a further tax was imposed on the beets which reduced their number to 96. By this time marked improvements had been effected in the quality of the beets grown, by which the yield of sugar was increased; improvements also in the process of manufacture were devised which lessened the cost of production, and the growth of the industry was continuous, notwithstanding that the government doubled the tax on beets in 1851 and again doubled it in 1854, after which no change was introduced until 1859, when another increase was made, and for ten years no further government interference took place

In the report of the United States Consul General Edwards of Berlin, on the beet sugar industry of Germany, submitted in March, 1890, we find that from 1839 to 1883 the duty on sugar beets outering the factories was 1.60 marks per 100 kilos, equal to about \$3.42 per ton of 2,000 pounds, and from 1886 to 1888 which provides for a reduction in the tax on beets from 1.70 to 0.60 marks per 100 kilos, equal to about \$1,28 per ton, while an additional tax is put on all manufactured of 12 marks per 100 kilos being a fraction over 11 cents per pound The drawback which is allowed under this new law is as follows: For raw sugar polarizing from 90 to 98 per cent. and for refined sugar under 98-8.50 marks per 100 kilos; for white sugars from 98 to 99.50, 10 marks; and for 99.50 and over, 10.65 marks,

The object in view in all these change has been to reduce the bounties which sugar-makers have received through the protection which the tariff has afforded and the margin which the internal revenue regulations have allowed them. The last change, whils somewhat lessening the production of sugar, has made a favorable showing on the revenue. During the fiscal year, 1887-88, before this new law went into force, the taxes collected on beets and sugar amounted to \$28,176,106 and the rebates on sugar exported to \$25,125,184, leaving a net balance on sugar account of \$3,050 922, showing that a very large propor-tion of the tax paid on the sugar con-sumed by the German people had been given by the government in indirect bounties to the manufacturers and in drawbacks to enable them to supply cheap sugar, often below the cost of duction, to Great Britain, the United States, Canada and other purchasing countries. In 1888-89, while the operation of the new law had lessened the total output of sugar and brought the sum collected in taxes on this article down to \$25,869,172, it reduced the amount paid in rebates to \$19,058,088, leaving a net balance in the treasury on sugar account of \$7,162,310, a gain to the evenue on a reduced production of

\$4.011.388. From an early period the system of taxation in Germany was so framed as to prove a stimulus to improvements in the methods of manufacture and to the production of beets containing a high percentage of sugar, as the price paid for them was in proportion to their sugar contents-in short, to extract the largest proportion of sugar possible from every ton of beets used, while the system in operation in France prior to 884 had a very different effect. In that year, as already stated, a tariff was adopted in France based on the German plan, and the results since obtained show a steady improvement. Nevertheless, Germany still takes the lead, and on account of the relative advantages she has gained continues to make beet-

root sugar cheaper than it is yet possi-ble to produce it in France. The following table show the relative progress of this industry in the two countries, the number of tons of beets worked, the total sugar extracted and the average percentage of sugar made from the beets from the year 1872 to

Years.	Beets worked. Tons.		Sugar ex- tracted. Tons.		Approxi- mate per cent of yield.	
	1872-74 1873-74 1873-75 1874-75 1875-75 1870-75 1870-75 1871-80 1881-82 1881-82 1882-84 1883-84 1883-84 1883-85 1883-87 1883-87 1883-87 1883-87 1883-87 1883-87 1883-87 1883-87 1883-87 1883-87 1883-87 1883-87 1883-87 1883-87 1883-87 1883-87	3,528,763 2,756,745 4,161,294 4,090,968 4,090,968 4,628,747 4,805,961 6,322,280 6,271,047 8,747,153 8,918,130 10,402,628 7,070,316 9,137,316	4,863,000 5,525,000 5,529,000 5,099,000 6,984,000 6,987,000 7,328,000 4,512,000 3,459,000 5,484,097 3,614,642 4,216,850 6,065,801	291,040 256,412 358,048 289,422 378,009 426,155 409,415 550,722 831,995 940,109 1,123,030 838,105 1,023,734 935,409 935,409	290,000 506,884 105,750 474,000 161,075	10.51 10.79 11.33 11.87 13.08 11.96

"The following figures are believed to be correct. They have been compiled partly from official data and partly from the "Sugar Beet" and "Licht's Cir-culars."

It has often been stated that the farm ers in Europe and especially in Gernany are fully alive to the importance of cultivating beets on their land, and to the profits of the crop. By the official records of the German government it is shown that for eighteen years ending with 1888, which are the latest records available, more than 60 per cent of the total quantity of beets used in the Ger-man empire for the manufacture of sugar was grown by owners of the factories, and less than 40 per cent by the farmers. The average production on the land worked by factories is said to have been 12 tons per acre in 1886, 10 tons in 1887, 11 tons in 1888, 13 tons in 1889, and in 1890, according to the esti mate of Mr. Licht, it was 14 tons. The number of factories working during the eighteen years referred to varied from 311 to 401, the number operating in 1888-89 being 396. The average number of days of twelve hours which each of these factories worked during the period named was seventy-eight. About 700, 000 acres of land are devoted to beet culture, which is said to be about 31 per cent of the arable land of the empire.

Large profits are made by many of the factories. In 1884 some details were published as to the dividends paid by five of the large establishments which were said to be as follows: 36, 38, 38, 43 and 50 per cent. In 1889-90 some of the German authorities state that many of the lac-tories had made profits that year vary-ing from 20 to 50 per cent on the capital nvested. It does not, however, appear that the farmers share to any great ex-tent in these large gains. In a report made to the United States government in 1888 by the United States consul at Crefeld we find the following: "The ousiness of farming in Germany has been for some years, and is now, in a depressed and very unsatisfactory condition. This fact is particularly apparent in the prevailing low value of farms as compared with previous years. It is said by those who are in a position to be well informed on the subject that in districts which are remote from large cities and where the consumption of milk and other perishable farm products is small, that farming properties can be pur-chased at 50 per cent of their former

'The chief reason given for the cause of this depreciation is the universally low prices steadily maintained for grain and cattle, brought on the country, it is said, in consequence of the immense importation from Russia, America and

the East Indies of similar articles of

food. "The sugar "ffanufactories are mostly in the hands of companies which control arge amount fof capital, and only few establishments are in possession of agricultural associations. Up to the present date the government has reunded to the manufacturers the entire duties collected on export sugar, and for this reason their dividends have been arge; but the farmers who produce the beets do not seem to have been benefited by this liberal measure, as the price of sugar beets has been tending steadily

downwards. "Farmers are now however growing wise by experience, for they have learnt that the conversion of their sugar beet crops into beef, by feeding them to cattle, is a much more profitable transaction than selling them for sugar purposes at present prices.

'It is noticeable throughout Germany that scientific and modern methods of cultivating the soil are rapidly superseding past usages, and that the busi-ness of farming is being conducted upon the basis of higher intelligence and business-like principles."

### MILITARY MATTERS.

It is understood that the findings in the court martial case of Colonel L. C. Overman, Corps of Engineers, acquits that officer of

the charges against him. A report comes from the White house that the president has decided to postpone the appointment of a brigadier general until the retirement of General Stanley in June next, The reason assigned for the delay is that the president is unable to decide between the candidates of Secretary Etkins and Senator Proctor without offending one or the other, and therefore prefers to make both appointments at the same time. As previously stated, Secretary Elkins has recommended the appointment of Colonel Carr, and Sena-tor Proctor, Colonel Otis.

In German and Austrian society a second lieutenant of regulars occupies a higher standing than the most learned professor, cloquent advocate, or skillful physician, un-less, haply, those gentlemen should hold military rank outside their respective professions, as many of them do. In Prussia the army or navy officer must not sit in the opera stalls. He is too sublime a personage for that. The stalls are for such inferio beings as civilians, whose social superior he is in virtue of his silver sword anot, no matter to what suberdinate station of life his

family may belong.

The Army and Navy Register is authority for the statement that some interesting developments are promised with smokeless powder for the army. The ordnance officials have been notified of the intention of a New England inventor, whose composition has already been successfully tried in the small arms, to furnish a sample of powder for heavior guns and arrangements have been made at Sandy Hook for the testing of the article. The previous results obtained by the army ordnance people with this powder have prompted the gentlemen interested in the production of the material to form a com-pany for its further manufacture, and there is every likelihood that the coast defense veapons, by the time they are properly em placed, will have the best of modern powder. General Flagler, chief of ordnance, has de-tailed Captain Pitmin to take charge of the new smokeless towder laboratory which will be started at the Frankfort arsenal. The selection of this officer is an excellent one. He comes to the duty with experience in

laboratory work and a desire for results that will lead to a satisfactory solution of the smokeless powder problem. All matters per-Frankfort arsenal, and if congress can be inluced to appropriate a small sum for the proper fitting up of a laboratory, such as will be needed for successful work, there is no reason why there should not be results.

Fort Robinson. George H. Jewett of Arlington, Neb., completed and turued over to the government last Monday the new guard house. Mr. Jewett left yesterday for Cheyenne. B. S. Paddock, post trader, received offic-

ial notification from Washington this morning that he was granted an extension of time to close up his business from April 1 to December 1, 1892. was ushered in by a sr

storm which continued for about forty con-secutive hours, depositing in that time six inches of the "beautiful." Fires have been started in the new guard

house to warm it up and test the steam The steam laundry apparatus has arrived and Mr. Wah Lee will have to dig up ninety-five big "Melican" dollars to pay the reight charges.

Private Titton, who has been in the Chad ron jail for some months charged with shooting a woman in Crawford last fall, was tried and acquitted, and returned to the post this morning for duty. Thermometers registered 40 below on the

light of the 15th. Each day brings with it fresh reports about change of station and keeps every one on the anxious seat. Within the past ten days we have been going to every post in Arizona,

Texas and Montana. Fort Sidney. Lieutenant Sol E. Sparrow, adjutant Twenty-first infantry, who is absent on

leave, has had his seven days (post leave) extended twenty days by the department commander Lieutenaut F. L. Palmer is acting as post

and regimental adjutant during the absence of Lieutenant Sparrow. The following named recruits, enlisted by Lieutenant Stamper at Lincoln and other

points in castern Nebraska, are recent ar-rivals here: Leedy, Wadkins, Wright, Bowling and Hoagland. Corporals Ross and Ryan, cempany B, have been reduced to the grade of private by

sentence of summary court.
Private Joseph McLaughlin, company A,
has been appointed corporal.
The transfer of Private Charles Bowen, ompany F, Sixteenth infantry, to company Twenty-first infantry, has been revoked

by War department order.

The following men have recently been discharged under the provisions of general order No. 80: Privates David Johnson, company C, and James H. Durkin, company A, Twenty-first infantry.

The Fort Sidney Amateur Dramatic association, of which mention has heretofore been made, went to Fort Russell on the 9th inst. and played "Our Regiment" at the Post theater. The majority of the troupe remained over until the 11th, in order to attend a ball given in their hour. The troupe were mained over until the 11th, in order to attend a ball given in their honor. The troups were the recipients of much attention and many kindnesses, and left Fort Russell loud in their praise of the seventeenth infantry as generous hosts and royal entertainers.

Lieutenant L. W. McAndrew has left here for Columbus Barracks, Ohio, to which point he had been ordered for the purpose of conducting a detachment of recruits for the Twenty-first infantry, forty in number, thirty to go to fort Randall, S. D., the remainder to be brought here.

Fort Sally.

The old soldiers here are discussing the establishment of a garrison of the Regular Army and Navy union. It is learned from posts where these posts are in existence that it creates a better feeling and comradeship among old soldiers and greatly tends toward sociability in general. The officers comment very favorably upon the society, and promise a future for the infant organization.

The recent fine weather broke the ice in the Missouri, a token of an early spring in this part of Uncle Sam's country. Prairie chickens and jack rabbits are very plentiful around here, because the game law

rotects them at present. Private Sherman, attached to company I, Third infantry, re-enlisted lately for com-pany F. Twenty-first infantry, stationed at Fort Randall, S. D. Sherman thinks the Twenty-first foot is bound to have a change f station this year, not having had a change

of station this year, not having had a change for nearly eight years.

Corporal Wormer, company C, Twelfth infantry, returned from Fort Snelling last Wednesday. The corporal had charge of a detail conducting a military convict to that post to serve out a year's sentence at hard labor. Fort McKinney

Burlington, Ia. The following changes have taken place among the enlisted men at this port: Corporal Thomas J. Smith, troop "C." Sixta

cavalry, discharged; Private Martin McDonald, transferred frett the band to company H, Eighth infantry; Joseph E. Lupton, dis-charged from troop "H," Sixth cavalry, last month has re-collisted in company H, Eighth

infantry. Licetelant Eimer Linsley, Sixth cavalry, was relieved from charge of the detachment at the log camp March 9 by Lieutenant E. N. Jones, Eighth infantry. Reports from the camp are to the effect that very little can be done in the way of cutting timber for some time to come, owing to the great depth of Second Lieutenant E. N. Imes, Eighth in-

fantry, was detailed March S to proceed to the log camp and relieve Lieutenant Elmer Lindsley, Lieutenant Lindsley received a mossage on

the 7th that brought him back to the post as fast as his horse could carry him. The mes-sage is supposed to have some connection with the arrival of a little girl baby at the with the arrival of a little girl baby at the lieutenant's quarters that day.

Lieutenant C. P. Terret, Eighth infantry, has been transferred by War department orders from Company K to Company E, Eighth infantry, changing with Lieutenant G. W. Ruthers, Eight infantry, at present on duty at the infantry and cavalry school, Fort Leavenworth, Kar.

Leavenworth, Kas. Lieutenant C. B. Gatewood, Sixth cavalry, returned to the post last week with twenty-four recruits for his regiment. He reports Powder river and Clear creek as almost impassable at present and that his trip was any thing but a pleasant one.

The weather has finally changed and we are enjoying regular winter blizzards once The parade ground is again covered with

snow and guard-mounts, parades and all that sort of thing that were beginning to loom up, have taken a back seat.
Paymaster William H. Comegys, with an escort of Ninth cavalry men, from Fort Rob-

escort of Ninth cavalry men, from Fort Rob-inson, arrived at the post Sunday evening, and the command is now being paid for the muster of February.

The men stationed at Fort Sheridan, Illi-nois, that are compaining of not receiving their pay on the 1st day of the month, ought to be stationed in this locality for a short time and they would then have something real to grumble about. They are paid every real to grumble about. They are paid every month, while the troops here are paid every two months, and the paymaster never gets around to us sooner than the 14th and gen-erally about the 20th of the month, and yet there is no grumbling up here. Again they claim that the married men at Fort Sheridan have a particularly hard time. Our married people pay 45 to 50 cents a pound for butter-the same for eggs, 69 to 80 cents a bushel for potatoes and everything else in proportion,

and still they do not sit up nights waiting for the paymaster. We are all broken up, that is those of the Eighth infantry are, over the fine pros-pect we have of changing stations sometime in May or June next. It seems pretty certain that we will have a change, but it is by no means certain where we will go to. The sanguine chaps will not be satisfied with anything but Vanconver Barracks, but there are others who look gloomy and predict a worse station than our present one, although they confess it would be hard to find one. For the first time in almost two months we had the band out for guard mounting on the parade ground. The snow has almost disappeared and the ground is fast becoming

hard and dry. The companies are out drill-ing under the new tactics and the cavalry are having battalion drill. An item in THE BEE that arrived this morning stating that General Schofield is at work making out the list of changes of sta tions of regiments, has caused considerable talk in the post. The Eighth infantry is the the trace host in the lightning will strike it, and that if it does get a transfer, the regiment will be all together at some large post. Excepting the six weeks they were at Camp Crook in the fail of 1889, the Eighth has not been stationed at the same post since 1871, when they were at David's Island, New

York harbor. The weather continues fine and it looks as though the gardeners would soon be at work ploughing and getting things ready for the post garden.

Fort Riley. With a cavalry and artitlery school and

ifle competition at this post it will be a lively place to live in next summer. The plowing at the post garden has been continued for a few days in order that Uncle Jerry Rusk can work in a few more rain and snow storms.

Major Smith, paymaster, was a welcome visitor at the post Wednesday. It was a very quiet payuay.

was a decided success. The animals-old young and crippled -brought very fair prices Kansas farmers would rather pay \$50 for unged-up, played out cavalry horse than 575 for a 4-year-old horse which was raised in their own county.

The Wiseners of Ogden, Kan., were the lowest bidders to furnish the government with horses for the cavalry service at Fort There is no doubt but what they wil receive the contract.

A certain paper published in Missourl, near the mouth of the Kaw, says it is nonsense to move the bodies of the Seventh cavalrymou from Pine Ridge to this post. The would be great military authority says the national cemetery is the place for the final interment. Whether it is nonsense or not the remova will take place just the same, and parties in Omaha will receive the contract. We have got a beautiful cemetery at this post, and as the Seventh cavalry is going to remain here for several years yet there is nothing non sensical about this commendable action of the War department.

Major listey in a letter to a friend says: "I am more than pleased with Fort Robinson and the Ninth cavatry. I felt a little homesick at first, but as that feeling has worn away I feel as though I have always lived here. The Nebraska air is invigorating and my usual daily walks over to and beyond the old Red Cloud agency are a source of enjoyment as well as physical exerciso." Sergeant H. H. Smith, signal corps, left Thursday for Vancouver barracks.

The officers and men of the Seventh cay alry are caising a fund for the erection of a monument, which will be placed over the remains of the enlisted men whose bodies wil be brought to this post from Pine Ridge for ermanent interment. The enlisted men have come to the front and center in gallant style and the fund has already reached into the hundreds. It is thought the monument

will be composed entirely of granite.

John Turney, late first sergeant troop C, Seventh cavalry, was discharged some time ago intending to stay out of the army. He changed his mind and collisted for the infantry under an assumed name. A few weeks in the "dough boys" was enough for John. He was discharged by order of the War department and is now back in his old

Pursuant to instructions from the department commander. Captain L. R. Hare, Seventh cavalry, has transferred to Lieutenant J. F. Bell, adjutant Seventh cavalry, from troop K, company fund, the sum of \$121.60, as per settlement approved by the major general commanding the army, of the balance of an indeptedness due from troop K. Seventh cavalry, to the enjasted men K, Seventh cavalry, to the enlisted mer formerly of troop L, Seventh cavalry. Private 1 Sec-O (Pleaty Fires) has been appointed a sergeant in L troop, Seventh

Lance Corporal Hugh McCann, D troop, Seventh cavalry, has been appointed a corporal.

Recruits are arriving nearly every day. They are assigned to B and C troops. Privates James A. Smith and Albert J. Lewis have transferred from troop E to troop I, Seventh cavalry.

Lance Corporal Charles Hayden, C troop, Seventh cavalry, has been promoted corporal, vice Casner discharged.

Lance Corporal John Dolan, I troop, Seventh cavalry, has been promoted corporal to fill vacancy. Captain Garlington is one of the few officers remaining in the army who recognize true merit.

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